

## TWENTY-FIVE YEARS AGO†

### EXCERPTS FROM OUR STATE MEDICAL JOURNAL

Vol. XVIII, No. 10, October, 1920

#### EXCERPTS FROM EDITORIAL NOTES

*Attention, Physicians, Voters!*—Are you interested in continuing the practice of scientific medicine in California? Do you believe scientific medicine has any contribution to make to California in her social, economic and health development? Do you recognize that being a physician ought to make you a better citizen? Do you know that the election on November 2, 1920, so far as it affects these points, will be determined by what YOU do? . . .

#### EXCERPTS FROM ORIGINAL AND OTHER ARTICLES

*From an Article on "The Present Status of Anesthesiology and the Anesthetist," by Eleanor Seymour, M.D., Los Angeles.*—The administration of anesthetics is an art ancient and honorable, signalized as are few procedures by both divine sanction and usage, for in the second chapter of Genesis it is recorded that "the Lord caused a deep sleep to fall upon Adam and he slept, and He took one of his ribs and closed up the flesh instead thereof." It is cause for regret that there is no detailed account of the induction and maintenance of this first anesthetic but it is evident that the administration was considered of such importance as not to be entrusted even to the Angel Gabriel,—must less an angelic nurse,—and of Adam's safe and satisfactory recovery there is abundant record. . .

*From an Article on "Some Recollections and Ophthalmologic Observations from Service in the A.E.F. in France," by Vard H. Hulen, M.D., Berkeley, California.*—As only a few members of this section had service in the A.E.F., some observations based on my experiences "over there" may be of more interest to you than a scientific effort limited to fifteen minutes, and a discussion of my deductions may be of some practical use even now.

The goal of every medical man who early volunteered his services was naturally France, so that when directed in September, 1918, to join B. H. 104, then almost completely organized at Camp Dodge, Iowa, destined for overseas service, I was relieved from the suspense of having waited nearly six months for overseas orders. . .

*From an Article on "Californians on the Italian Front—Historical," by Thomas C. Myers, Major M. R. C., Los Angeles.*—Through the generous gift of \$100,000 by Mrs. Diebert of New Orleans a hospital unit was organized in the United States known as the Loyola Unit, afterwards accepted by the U. S. A. as Base Hospital No. 102. The selection and organization of the nursing corps were delegated to the Sisters of Charity who were peculiarly fitted for this duty by reason of their management of many hospitals and training schools throughout the United States. . .

*From an Article on "End Results of Radical and Conservative Pelvic Surgery," by Alice F. Maxwell, M.D.,*  
(Continued in Back Advertising Section, on Page 30)

† This column strives to mirror the work and aims of colleagues who bore the brunt of Association activities some twenty-five years ago. It is hoped that such presentation will be of interest to both old and new members.

Historical reminiscences, papers and other archives will be welcomed by the C.M.A. Committee on History, to whom such should be sent. Address same to the Committee's Secretary, Dr. George H. Kress, Room 2004, 450 Sutter, San Francisco 8.

## BOARD OF MEDICAL EXAMINERS OF THE STATE OF CALIFORNIA†

By F. N. SCATENA, M. D.  
Secretary-Treasurer

### Board Proceedings

A regular meeting of the Board of Medical Examiners will be held at 1020 N St., Sacramento, from October 15 to 18th, 1945. Written examinations for all classes will be conducted and legal hearings will be conducted during the meeting.

### News

"Found guilty of three counts of practicing medicine without a license, Mrs. Pauline Vigil of 1823 N. Buena Vista St., today had filed notice of an appeal. The jury reached a verdict of guilty in a case tried before Police Judge Raymond L. Reid's court. Charges had been preferred by the State Board of Medical Examiners, under the Business and Professions Code." (*Hollywood Citizen-News*, August 14, 1945.)

"A Glendale physician was under arrest today charged with falsifying a birth certificate to enable the adoption of a 'black market baby' without the formality of going through state controlled adoption, according to Glendale police. He was Dr. Philip V. Abrams, 30, of 1601 Griffith Park boulevard, Glendale, who maintains an office in that city at 115 West Hayworth Avenue. . . ." (*Los Angeles Herald and Express*, August 9, 1945.) The records show that Dr. Abrams is under jurisdiction of the Board of Osteopathic Examiners.

"In Long Beach, California, a woman 'doctor' has been indicted for murder and police believe that through her arrest they have cleaned up 'one of the nation's largest abortion mills.' The woman has admitted that she performed from 30 to 35 abortions each week for the past two years—a total of more than 3,000. Her arrest followed the death of one of her 'patients,' the wife of a navy man. The woman spoke freely to police of her life-destroying work, and said that she had been engaged in the nefarious practice of performing abortions ever since she moved to California 18 years ago. . . ." (*Banning Live Wire*, July 12, 1945.)

"Dr. Samuel D. Collins, 42, chiropractor, accused of performing illegal operations which led to one death and another critical illness, today was free on \$7,500 bail and denied performing either operation. Trial has been set for Sept. 28. Collins was seized in front of Georgia Street Receiving Hospital after police reported he tried to push Crystal L. Hawkins, 23, from his automobile. At the hospital, Mrs. Hawkins was found to be suffering from the effects of an illegal operation. The chiropractor is also under suspicion in connection with the death of Margie F. Wilson, 20, also from an illegal operation, July 27." (*Pasadena Star-News*, August 7, 1945.)

"His 'love cure' prescription and subsequent beating of the woman patient who refused it today sent Dr. Wendell White, 35-year-old Glendale physician, to jail for 90 days of a 180-day term. Police Judge Charles Dwyer sus-

(Continued in Back Advertising Section, on Page 32)

† The office addresses of the California State Board of Medical Examiners are printed in the roster on advertising page 6. News items are submitted by the secretary of the board.



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### TWENTY-FIVE YEARS AGO

(Continued from Page 30)

advancing and widening fields of endeavor. The preparation for the right to practice such a profession as ours is being made harder and more exacting every year, and this by our own election. With every year that multiplies practitioners of the easier, "get-rich-quick" schools, we demand from ourselves a *stricter accountability to the law, a greater responsibility toward our patients and a higher standard of ideals in answering to our conscience.* It is not for our livelihood that we follow this science, but for higher values in human life. . . .

Men resemble their contemporaries even more than their progenitors.

—Emerson, *Representative Men: Uses of Great Men.*

All, as they say, that glitters is not gold.

—Dryden, *The Hind and the Panther*, Pt. II, 1.215. (1687)

### BOARD OF MEDICAL EXAMINERS

(Continued from Text Page 204)

pended another 90 days of sentence and placed White on one year's probation on his plea of guilty to battery charges. The physician was accused of offering to administer 'love treatments' for \$10 apiece to Mrs. Sidnie Leonard after he examined her in his office. When she refused, Mrs. Leonard said White kicked her and hit her in the stomach. "This is not the only case against you reported to the police. Ever since your arrest we have reports that you beat other women," Judge Dwyer told White." (Burbank Review, August 17, 1945.)

"Pleas of innocence were entered in superior court yesterday by Dr. Lloyd Tilbury, Oceanside osteopath, and Mrs. Georgia R. Renfrow, nurse assistant, charged in a

(Continued on Page 36)

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### BOARD OF MEDICAL EXAMINERS

(Continued from Page 32)

grand jury indictment with abortion. Their trial was set for Sept. 17 and they remained at liberty under \$2,500 bail each. The doctor and his assistant are charged with having performed an illegal operation on the wife of a serviceman now overseas." (San Diego Union, August 15, 1945.)

"Establishment of a psychiatric clinic in Los Angeles County was one step nearer today with the announcement that Governor Warren had signed a bill appropriating \$100,000 to buy a site for the institution." (Pasadena Star-News, July 19, 1945.)

### X-Ray—Its Discovery and Application in Medicine *Fiftieth Anniversary of the Discovery of X-Ray (Roentgen)*

*Discovery:* The x-rays were discovered on November 8, 1895, by Wilhelm Conrad Roentgen, a German physicist, at the Physical Institute of the University of Wurzburg in Bavaria. Like many scientific discoveries, x-rays were first detected by accident, Roentgen noting them while concerned with other experiments.

Although he was baffled by the nature of his discovery

—thus terming it x-rays for unknown quantity—Roentgen realized almost immediately that he had something that would be a boon to mankind, especially after he learned the rays would penetrate the human body and reveal the bone structures. One of his first "pictures" was of the bone formation in his own hand.

In an interview soon after he announced his discovery, Roentgen was asked:

"Now professor, will you tell me the history of the discovery?"

"There is no history," Roentgen replied: "I have been for a long time interested in the problem of the cathode rays from a vacuum tube, as studied by Hertz and Lenard. I had followed theirs, and other researches, with great interest, and determined, as soon as I had time, to make some researches of my own. I had been a work for some days when I discovered something new."

"What was the date?"

"The eighth of November."

"And what was the discovery?"

"I was working with a Crookes' tube covered by a shield of black cardboard. A piece of barium platino-cyanide paper lay on the bench there. I had been passing the current through the tube, and I noticed a peculiar black line across the paper."

(Continued on Page 39)

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## X-RAY—ITS DISCOVERY AND APPLICATION IN MEDICINE

(Continued from Page 38)

"What of it?"

"The effect was one which could only be produced, in ordinary parlance, by the passing of light. No light could come from the tube, because the shield which covered it was impervious to any light known, even that of the electric arc."

"And what did you think?"

"I didn't think; I investigated. I assumed that the effect must have come from the tube, since its character indicated that it could come from nowhere else. I tested it. In a few minutes there was no doubt about it. Rays were coming from the tube which had a luminous effect on the paper. I tried it at greater and greater distances, even at two meters. It seemed at first a new kind of invisible light. It was clearly something new; something unrecorded."

"Is it light?"

"No."

"Is it electricity?"

"Not in any known form."

"What is it?"

"I don't know."

Two months after his actual discovery, Roentgen reported his finding in a paper, "A New Kind of Ray," read before the Physical Medical Society of Wurzburg. The news in his report spread like wildfire, electrifying the world.

1 1 1

*Early Reaction.*—The medical profession recognized the vast significance of Roentgen's discovery almost immediately. "Here," doctors said, "is a device which allows us to turn our patients inside out." X-rays were used first in medicine to detect bone pathology, but within a short time, x-ray films also recorded pathological conditions of the heart and the lungs, since these organs also

(Continued on Page 40)

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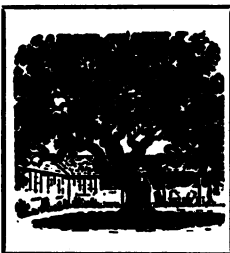
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**X-RAY—ITS DISCOVERY AND APPLICATION IN MEDICINE**

(Continued from Page 37)

showed up clearly on the film. Almost overnight, much guesswork was eliminated from medical practice.

Newspapers all over the world published stories, cartoons and even poems about the new "wonder rays." They printed skeletons of hands and feet of living persons and extolled the mysterious powers of the new rays, which could "see" through almost anything. As a result, a member of the New Jersey assembly introduced a bill which forbade the use of x-rays in opera glasses in theaters. A London firm "made prey of ignorant women by advertising the sale of x-ray-proof clothing." An eastern newspaper went so far as to speculate that the

new rays might solve the problems of spiritualism and soul photography. Another paper said a well known medical school was using x-rays to reflect anatomic diagrams directly into the brains of students, thereby making a more enduring impression than the ordinary methods of learning.

*The Profession of Radiology.*—In the early days of x-ray, an exposure of thirty minutes was sometimes necessary to get a readable film. Today, due to developments in equipment, an exposure can be made in less than a second.

Soon after physicians began to use x-ray, the equipment was usually operated by a photographer or a fellow with engineering experience. Today, the x-ray specialist is a trained physician—a radiologist—who, having devoted several years to the study of radiology after his

(Continued on Page 42)

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## X-RAY—ITS DISCOVERY AND APPLICATION IN MEDICINE

(Continued from Page 40)

graduation from medical school, passes an examination to qualify as a member of this specialized branch of the medical profession.

Radiology became a medical specialty when it became apparent that the effective use of x-ray in medicine depended upon a proper interpretation of x-ray findings. This interpretation could only be made by one with a firm foundation in the medical sciences and a special knowledge of physics, as the latter apply to x-ray. For example, anyone can detect a broken bone on an x-ray film. However, it takes one with a thorough knowledge of anatomy, physiology and pathology to determine if the broken bone resulted from injury or disease.

The field of radiology has advanced so far within recent years, that sub-specialization is going on within

this branch of the profession. At the present time, there are radiologists who devote their entire time to therapeutic radiology, that is, the treatment of disease; while others confine their efforts to diagnosis, entirely.

The present-day radiologist has his own office or he is the director of the radiology department at a hospital. Usually, the radiologist works in coöperation with the patient's physician, lending his specialized skill to diagnosis, and/or treating the patient, if x-ray therapy is indicated.

*What Are X-Rays.*—Nearly a half-century before American fliers blasted Japan out of the war with atom bombs, Roentgen turned on the current in his Crookes tube and sent millions of electrons crashing into the atomic structure of the tube's metal anode.

The electrons, traveling at a speed of 30,000 miles a second, dislocated and rearranged the atoms in the metal,

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### X-RAY — ITS DISCOVERY AND APPLICATION IN MEDICINE

(Continued from Page 42)

at the same time releasing the mysterious radiations so powerful they penetrated the black cardboard shield covering the tube and registered on a piece of sensitized paper.

The high frequency radiations which are released when electrons strike a metal object with sufficient impact are the x-rays which vary in quantity and quality, depending upon the amount of voltage applied to the tube.

The electron, a negatively charged particle, is one of the smallest of the fundamental building blocks of matter. Put 30,000 trillion billion (that's 30 with 27 zeros after it) electrons together and they would weigh less than an ounce.

Activate the electron, however, with high voltage elec-

tric current and you have a projectile which travels at a rate of speed terrific enough to carry the tiny particle into the atomic structure of metal.

Under a voltage of 50,000 volts, the electron attains a speed of 77,200 miles per second; step up the voltage to 400,000 and the electron speed will approximate 155,000 miles per second.

The modern x-ray unit varies in power from the small tubes used by dentists to examine a patient's teeth to huge units with more than 1,000,000 volts of power for therapeutic and industrial purposes.

The rays, in many respects, are similar to visible light with the basic difference that the wave lengths of x-ray are shorter than the waves of ordinary light.

Because of the shorter wave length, x-rays are able to penetrate solids which resist visible light.

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**X-RAY — ITS DISCOVERY AND APPLICATION IN MEDICINE**

(Continued from Page 44)

*X-Rays in Medicine*

*Diagnosis:* No modern hospital today is without its x-ray department and every physician, surgeon and dentist depends upon the opinion of the radiologist, a physician especially trained in the use of the x-ray, for diagnosis and prognosis in a large portion of his cases.

Practically no region of the body is hidden from the searching eye of x-ray. With its aid, the radiologist can examine the skull, spine and other bones of the body; he can see that a broken bone is set properly and how it is knitting; the x-ray examination will reveal gallstones, kidney stones and bladder stones. Upsets in the physiology of the body often can be detected by the radiologist by

telltale shadows in the intestines, lungs, heart and other organs.

Because tuberculosis of the lungs shows characteristic markings on x-ray film, the presence of the disease can be accurately detected even when other symptoms are lacking. Ulcers and tumors that otherwise would not be discovered until too late for treatment are revealed by x-ray examination.

In x-ray diagnosis, two different methods of examination are used:

1. Radiography, whereby a permanent record of the x-ray image of the part of the body under examination is made on film.

2. Fluoroscopy, which enables the radiologist to study internal organs in motion on a viewing screen.

A radiograph of any part of the body is similar to a photograph except that it is fundamentally a shadow-graph rather than a picture produced by reflected light.

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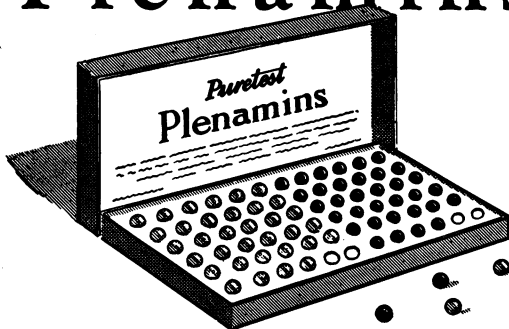
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## X-RAY—ITS DISCOVERY AND APPLICATION IN MEDICINE

(Continued from Page 50)

The "lights and darks" of the x-ray film depend upon the differences in the density of the tissues situated in the path of the rays before they reach the film. The greater the density or thickness of the object radiographed, the whiter will be that particular area on the film. The radiologist makes his diagnosis on the basis of the shadow images recorded on the film.

The fluoroscopic method of examination involves the use of a cardboard screen coated with chemicals which fluoresce—or give off light—when exposed to x-rays.

When the rays strike the screen after passing through a patient's body, the images of the various organs are seen as dark shadows against an illuminated background.

Because of their lack of sufficient density, such internal organs as the stomach and intestines are not ordinarily clearly visible on the fluoroscopic screen or x-ray film.

For this reason, the organs are filled with a substance comparatively opaque to x-ray to make them stand out clearly. For example, a person who has an x-ray examination of his stomach will be given a milk-like substance to drink. Because the liquid contains barium sulphate, which resists x-rays, the stomach and intestines will be clearly outlined on the x-ray film or fluoroscopic screen.

*Therapy.*—Therapeutically, x-rays have been found useful in treating approximately 80 skin disorders, as well as acute infections, inflammations, gas gangrene and both malignant and benign tumors.

Living tissues undergo certain changes when exposed to x-rays because the tissues of the body absorb part of the rays.

The changes in the physiologic and biologic sections of the tissue vary according to various factors, the chief of which are the quality and quantity of the rays, rate of administration, intervals between treatments, size of exposed field and possible previous exposures to x-rays.

Although a comparative infant in the field of medical science, x-ray already has achieved an imposing record as a therapeutic aid in the war on disease, particularly against cancer.

*X-Ray in World War II.*—During the first World War, an x-ray chest examination was not a routine procedure for men drafted into the armed forces. As a result, the government later had to pay out more than a billion dollars in claims and hospitalization on tuberculosis cases among men in service.

After the passage of the Selective Service Act in 1940, photo-roentgen units—a highly specialized method of x-ray examination particularly suitable for the detection of tuberculosis—were set up in every induction station.

The photo-roentgen equipment makes use of the customary type of x-ray apparatus to throw the image of the chest on a standard-sized fluorescent screen. A small camera is then used to photograph the image on the screen on supersensitive 4 x 5 inch cut film or 70 mm roll film.

Because a 14 x 17 inch film is used in the conventional method of x-ray examination, material costs were cut to about one-tenth of what they would have been.

During the first four years of selective service, about 12 million x-ray examinations were made at induction stations resulting in 120,000 deferments for chest conditions. Thousands of the rejected draftees were not even aware that they had a tubercular condition.

An x-ray survey of 700,000 war workers by the U. S. Public Health Service revealed that 13 of every 1,000 persons had evidence of tubercular infection. The National Tuberculosis Association estimates that each year there are at least 200,000 unsuspected cases of the disease. The Association relies upon x-ray examination as one of the most potent weapons against the disease because through it physicians are able to detect the infection in its early stages when it is easier to effect cures.

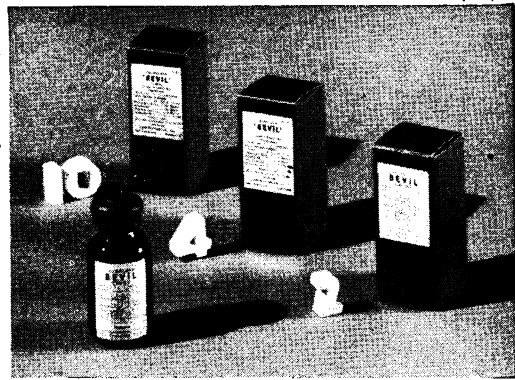
In every theater of war and at all military hospitals, the radiologist has played an important part in the treatment and care of battle casualties and the sick.

It is impossible to estimate the enormous contribution x-ray has made to the war, but the records show that about 700 radiologists are now in uniform. Several hundred other medical officers have received special training from the Army or Navy in the science of radiology and they, too, have carried on x-ray's task of aiding in the mending of the wounded and the healing of the sick.

*Future of X-Ray.*—The future of radiological practice will be determined by developments which result from the clinical extension of the applications of x-ray and refinements in the art of roentgen diagnosis.

Through improvements in x-ray apparatus, the clinical use of the rays will be extended and improved. What new uses will be discovered for x-ray are a secret of the future, but radiologists believe the full utility of the rays is yet to be reached.

Regardless of its rôle in the future, however, x-ray already has been responsible for much of the progress made in medicine in recent decades. To the science of radiology must go much of the credit for the advancement made in the treatment of diseases of the lungs, cancer, bone diseases, heart disease, gastric diseases and many infections.



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